the Philippine Islands.—K. KRAUSE (Notizblatt **5**:264, 265. 1912) records 2 new species of *Phoradendron* from Costa Rica. The same author (*ibid.* 266, 267) has published 2 new species of Araceae from the Philippines.—F. D. LAMBERT (Tufts Coll. Studies Sci. Ser. **3**:111–115, *pl. 3.* 1912) describes and illustrates a new genus and species of alga (*Didymosporangium repens*) of the Chaetophoraceae, found on *Antithamnion plumula* at Naples, Italy.—H. LÉVEILLÉ (Bull. Geogr. Bot. **21**:149. 1911) has published a new species of *Epilobium* (*E. Arechavaletae*) from Uruguay.—J. M. MACFARLANE (Contr. Bot. Lab. Univ. Penn. **3**:207–210. *pls. 1, 2.* 1911) has published 2 new species of *Nepenthes* (*N. Merrilliana* and *N. truncata*) from the Philippine Islands.—B. MACKENSEN (Bull. Torr. Bot. Club **39**:289–292. 1912) records 3 new species of *Opuntia* from Texas.—J. H. MAIDEN (Rev. Euclayptus **2**, parts 4–6. pp. 135–216. *pls. 61–72.* 1912) contains descriptions, notes, and illustrations of several different species of *Eucalyptus*.—G. MASSEE (Kew Bull. 1912. 189–191) has described several now species of fungi, including one (*Eutypa gigaspora*) from Trinidad.—E. D. MERRILL (Phil. Journ. Sci. Bot. **7**:71–107. 1912), under the title "Sertulum Bontocense" has described 32 new species of flowering plants from the Island of Luzon, P.I., and proposes a new genus (*Vanoverberghia*) of the Zingiberaceae. The same author (*ibid.* **6**:369–406) presents a synoptical revision of the Philippine species of *Begonia*, recognizing 59 species of which 33 are described as new.—B. NĚMEC (Bull. Int. Acad. Sci. Bohême **16**:67–84. *pls. 1, 2.* 1911) under the title "Zur Kenntnis der niederen Pilze I. Eine neue Chytridiazee" presents a detailed account of a fungus to which he gives the name *Sorolpidium Betae*, nov. gen. et sp.—R. PILGER (Nobizblatt **5**:259–263. 1912) has published 10 new species of *Plantago* from America.—L. RADLKOFER (Phil. Journ. Sci. Bot. **6**:365–367. 1912) proposes a new genus (*Hebonga*) of the Simarubaceae from the Philippine Islands; the genus is represented by two known species.—C. S. SARGENT (Pub. Arnold Arb. No. 4, pp. 145–312. 1912) in cooperation with E. KOEHNE, A. REHDER, C. SCHNEIDER, and E. H. WILSON under the leading title of "Plantae Wilsonianae" has issued the second part of a series of papers dealing with plants collected in western China by Mr. E. H. WILSON in 1907, 1908, and 1910. The paper contains many new species and varieties, particularly in the Saxifragaceae and Rosaceae.—W. A. SETCHELL (Univ. Calif. Pub. Bot. **4**:229–268. *pls. 25–31.* 1912), under the title "Algae novae et minus cognitae I" has published several new species, and proposes the following new genera: *Hapterophycus* of the Ralfsiaceae, *Besa* of the Gigartinaceae, and *Baylesia* of the Dumontiaceae.—J. M. GREENMAN.

The evolution of the chalazogams.—A rather extended paper by NAWASCHIN and FINN[19] describes the morphology of *Juglans nigra* and *J. regia* and discusses the significance of chalazogamy. The paper is in Russian,

[19] NAWASCHIN, S., and FINN, W., Zur Entwickelungsgeschichte der Chalazogamen. *Juglans nigra* und *J. regia*. Mem. Soc. Nat. Kieff **22**:1–85. *pls. 1–4.* 1912.

but there is a summary in German, the principal features of which are as follows: Among the seed plants there is an evident tendency to reduce the male gamete so that the male cytoplasm does not take part in fertilization. In this reduction the binucleate generative cell has played an important part. Its appearance in the gymnosperms (Abietineae, some Taxaceae, Gnetales) is accompanied by a constantly increasing disorganization of the male cytoplasm, which finally leads to the naked sperm nuclei of the higher angiosperms. The species of *Juglans* studied have binucleate generative cells which reach the embryo sac without disorganization, and correspond exactly to the binucleate generative cells of certain gymnosperms. In this feature, therefore, these species occupy an intermediate position between gymnosperms, in which the cytoplasm reaches the egg cell, and the higher angiosperms, in which the male cytoplasm disorganizes in the pollen tube or even in the pollen grain.

The persistence of the male cytoplasm in *Juglans* is thought to be a primitive character retained from their gymnosperm ancestors, and the appearance of this character in chalazogams is said to be significant and is a further proof of the great age of these plants. The tendency in seed plants to reduce the male gametes seems correlated with the appearance of the pollen tube, for the simplification of the male gametes goes hand in hand with the evolution of the pollen tube.

While some of these conclusions seem rather arbitrary, the progressive reduction of the male gametes is a fact which all must recognize. Criticisms are left for those who can read the full paper.—CHARLES J. CHAMBERLAIN.

Winter condition of brown rots.—Conflicting and uncertain statements n the literature regarding the manner in which the fungi producing the brown rots of stone-fruits and pomaceous fruits live through the winter have led EWERT[20] to study the behavior of the conidia of these fungi with regard to their capacity for persisting through the winter. The rarity of the apothecia makes it improbable that these play an important part in maintaining the brown rot fungi.

EWERT finds that the two species of brown rot fungi, *Monilia cinerea* and *Monilia fructigena*, differ radically in their mode of passing the winter, a fact which may account for the discrepancies in the literature, since most of the conflicting statements regarding the persistence of the spores during winter were made before WORONIN had shown that the two species are clearly distinct. EWERT finds that the conidia of *Monilia cinerea*, which occurs primarily on stone-fruits but which can also infect pomaceous fruits, are capable of germinating at any time during the winter. They persist during the winter in the spore-cushions on mummies of cherries, plums, and other stone-fruits, and also on pomaceous fruits if these happen to be infected. Exposure to tempera-

[20] EWERT, E., Verschiedene Überwinterung der Monilien des Kern- und Steinobstes und ihre biologische Bedeutung. Zeitschr. Pflanzenkrank. **22**:65–86. 1912.